

### REMARKS

In response to the Office Action mailed November 28, 2007, Applicants respectfully request reconsideration. Claims 1-18 and 31-38 were previously pending in this application. By this amendment, claim 32 has been amended. As a result, claims 1-18 and 31-38 are pending for examination with claims 1 and 31 being independent. No new matter has been added.

### INTERVIEW SUMMARY

Applicant thanks the Examiner for the courtesy of an interview on March 4, 2008 (the "Interview"). During the interview, claim 31 was discussed in relation the Zangenehpour and Abe references. The following remarks may also serve as a further summary of the interview.

### OBJECTIONS TO THE CLAIMS

Claim 32 has been amended to correct an informality noted by the Examiner. Accordingly, the objection should be withdrawn.

### REQUEST FOR RECONSIDERATION

Applicant respectfully requests reconsideration of the rejections. As discussed during the Interview, independent claim 31 recites "blocks of addresses in memory of the computer system," which correlate to addresses of memory outside the cache. As noted by the Examiner in the interview, claim 31 does not expressly recite that the "addresses in memory of the computer system" are separate from the memory that inherently exists in the cache. Accordingly, the rejection is understood to be based on the possibility that "memory of the computer system" as recited in element a) of claim 31 could refer to the cache.

Applicant respectfully asserts that, even with this interpretation of the phrase "memory of the computer system," claim 31 is not properly rejected based on Zangenehpour in view of Abe because other limitations of the claim would not be satisfied. Preliminarily, Applicants note that the Examiner recognizes that Zangenehpour does not describe a data table (Office Action, paragraph 5). Rather, the Office Action asserts that it would have been obvious to modify the cache of

Zangenehpour based on the teachings of Abe to include a data table. Reasons why one of skill in the art would not modify the cache of Zangenehpour based on Abe are separately presented below.

Moreover, even if the combination of the references is proper such that the priority information of Zangenehpour could be regarded as being stored in a separate data table, the modified cache of Zangenehpour would not meet all limitations of the claim.

For example, element e) of claim 31 recites "selectively storing the item in a location...selected based on a relative priority..." Element e) then recites priority information that is used to select a location in the cache. For the limitations of element e) to be met, that priority information must be available to compare before a cache location is selected. Even under the Examiner's interpretation of Zangenehpour and even with Zangenehpour modified by Abe, this condition would not be met.

In element e), the first recited type of priority information comes from the data table, as recited in element c), and is based on using an address received with the item, as recited in element b), to obtain a priority from the data table. The second type of priority information used to select a location in the cache is based on priorities of locations in the cache.

Applicant respectfully submits that the Examiner's interpretation of the references causes acts c) and d) of the claim to be the same. Specifically, the Examiner equates the data table with priority information stored for each cache location. Accordingly, "obtaining from the data table a priority..."(element c) would be the same as using "locations in the cache...having a priority associated therewith" (element d) to obtain priority information). Thus, even with the Examiner's interpretation, the references do not disclose two types of priority information that are used to select a location in the cache to store an item and elements c), d) and e) of claim 37 are not simultaneously satisfied.

As regards claim 1, the recited acts similarly are not performed, even based on the Examiner's interpretation of the references. Element (a)(i) recites "associating a priority with a new item based on the address associated with the item." The Examiner asserts that this "associating" occurs "since the address of the item to be replaced is identified and assigned a priority"(Office Action, paragraph 4). However, if the priority is not assigned until *after* an item in the cache that is

to be replaced has been identified, element (a)(ii), which involves selecting the memory location in the cache based on that priority, cannot be performed.

Applicants also respectfully request reconsideration of the rejections of dependent claims. In addition to being allowable based on their dependency from claims 1 and 31, the dependent claims recite limitation that further distinguish over the references. For example, claim 33 recites that the "data table comprises a cacheability protection look aside buffer." The rejection of this claim is premised on such a component being well known in the art (Office Action, paragraph 6). However, such reasoning is inconsistent with the Examiner's interpretation in connection with the rejection of independent claim 31, which assumed that the "data table" is the cache itself. As another example, claim 38 recites "retaining the association between the obtained priority and the location until the item is removed from the location." This act is not performed in either Zangenehpour or Abe, in which the priority associated with locations changes based on use.

Additionally, some of the claims relate to assigning priorities to cache locations that are used for non-cache operations. As described in the present application, this capability has the potential for expanding the performance of a processor using a cache as recited, for example, in claims 14-16. If the references are interpreted to meet the limitation of "associating a priority" when an item is stored in the cache, the references would not have priorities associated with locations used for non-cache operations. As a specific example, the limitation of claim 14 reciting "assigning a first priority to a first portion of the plurality of memory locations" would not be met.

Further, as a separate reason that the rejections should be withdrawn, Applicants respectfully submit that one of skill in the art would have had no reason to modify Zangenehpour based on Abe. Each relates to a replacement policy in a cache. However, the replacement policies are different and seemingly incompatible. Zangenehpour relates to a least recently used replacement policy (see, e.g. Abstract). In contrast, Abe relates to a least frequently used replacement policy (see, e.g. col. 1, lines 45-48). Neither reference provides any basis for a conclusion that these replacement policies could be used together or otherwise provides a reason to selectively combine components of the references.

CONCLUSION

A Notice of Allowance is respectfully requested. The Examiner is requested to call the undersigned at the telephone number listed below if this communication does not place the case in condition for allowance.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 23/2825.

Dated: 3-25-08

Respectfully submitted,

By 

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